Geographical Service:

A compass for the Web of Data

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Motivation

- Most PSI data sets published so far have at least one geographical dimension:
  - Different granularity (unitary authorities, wards, constituencies, ...)

- Need to align geographical entities from various sources to an authoritative knowledge base:
  - Once aligned need to exploit such a reference.
  - Qualitative Spatial Relations can be used then to retrieve related entities (e.g. all sub-regions of a region)
  - Potential backlinking exploitation of such containments.
• Administrative KB of Great Britain as Linked Data.

• Released by an authoritative entity - Ordnance Survey.
  – From European Regions (e.g. South-West England) to single parishes and constituencies
  – Spatial relationships.

• There is a concrete opportunity to exploit this knowledge and provide a geographical context to other datasets

• Connections between datasets can be acquired by using co-reference mediation services (sameAs.org)
GB Administrative Geography + co-reference mediation = geoservice.psi.enakting.org
Geographical service – the data

http://dbpedia.org

http://crime.psi.enakting.org

http://data.ordnancesurvey.co.uk

http://parliament.psi.enakting.org

dbpedia:Hampshire

crime:Hampshire

Hampshire county

Os:7000000000017765

Fareham

Os:700000000025157

Winchester

Os:700000000025128

dbpedia:Fareham (UK Parliament constituency)

dbpedia:Winchester (UK Parliament constituency)

parliament:cons-637

parliament:cons-228
original links

Links with Geoservice inference
Geographical service – the API

- http://geoservice.psi.enakting.org/
  {command}/{dictionary}/{format}/{URI}
  
  - command = contains or container
  
  - dictionary = one of {dbpedia, os, geonames, statistics, geonames, enakting, opencyc, openlylocal, none}
  
  - format = rdf or text or ttl or json
  
  - URI = input URI of the entity to make the containment closure
geoservice.psi.enakting.org is a service to discover geographical resources in the Web of Data querying containment relations. In order to use the service enter a Linked Data URI in the input text box and choose the target data set or "none" for retrieving all the results. This service is integrated with sameAs.org so as to increase the coverage of connectivity. Moreover, the service is also integrated with backlinking service in order to retrieve resources that link to the geographical resources retrieved.

API Information

This service is a RESTful API, you can point your requests to:
http://geoservice.psi.enakting.org/{command}/{dictionary}/{format}/{URI}

command:
- contains: returns the entities contained in the input URI
- container: returns the entities that contains the input URI

dictionary:
- os: URIs from Ordnance Survey
- statistics: from UK National Statistics
- dbpedia: from DBpedia
Evaluation backlinks.psi.enakting.org

Backlinks Geographical Service Integration Disabled

PSI BackLinking Service for the Web of Data
powered by EnAKTing, EPSRC EP/G008493/1

http://dbpedia.org/resource/Hampshire

(sameAs) http://data.ordnancesurvey.co.uk/id/7000000000617765
Mortality Data Item (3)
Crime Data Item (11)

Foundation School (102)
LA Nursery School (12)
Other Independent School (310)
Other Independent Special School (11)
Tutorial (4)
Energy Consumption (300)
Voluntary Aided School (210)
Higher Education Institutions (4)
Miscellaneous (20)
Pupil Referral Unit (50)
Music (4)
Training School (4)
Further Education (62)
School (6010)
Voluntary Controlled School (303)
Community Special School (168)
FY Setting (3248)
Secure Units (4)
Independent School Approved for SEN Pupils (23)
Special College (12)
CO2 Emission Statistic (981)
Non-Maintained Special School (4)
Community School (1467)
Crime Data Item (11)
Population Statistic (4788)
Mortality Data Item (42)

Backlinks Geographical Service Integration Enabled
http://map.psi.enakting.org

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<th>value</th>
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<td>Hart</td>
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Thanks,
questions ...